Abstract Submitted
for the APR14 Meeting of
The American Physical Society

Learning Physics by Experiment: I. Falling Objects SAAMI J. SHAIBANI, Instruction Methods, Academics & Advanced Scholarship (IMAAS) — As a rule, students enjoy conducting experiments in which the practical aspects are straightforward and well-defined. This also applies even when there is no anticipated result for students to "prove." A laboratory exercise with such properties was created for students to undertake in a completely blind manner, and they happily proceeded without any knowledge at all of what they might expect to find. The philosophy developed for the research in this paper expands the pioneering approach formulated some half century ago [1] and successfully employed more recently [2]. In the present era of differentiated instruction (DI) being implemented in a diversity of educational settings, the design of the subject experiment is especially significant for its inclusive nature and for the positive outcomes it produces for less academically capable students. All students benefit from such an environment because it preempts the wasted effort of undue manipulation and it removes the need to contrive agreement with a textbook via irregular attempts at reverse engineering.

[1] curricula devised by Nuffield Foundation;
[2] Announcer, 34 (2), 164 (2004).

Saami J. Shaibani
Instruction Methods, Academics & Advanced Scholarship (IMAAS)

Date submitted: 10 Jan 2014 Electronic form version 1.4